

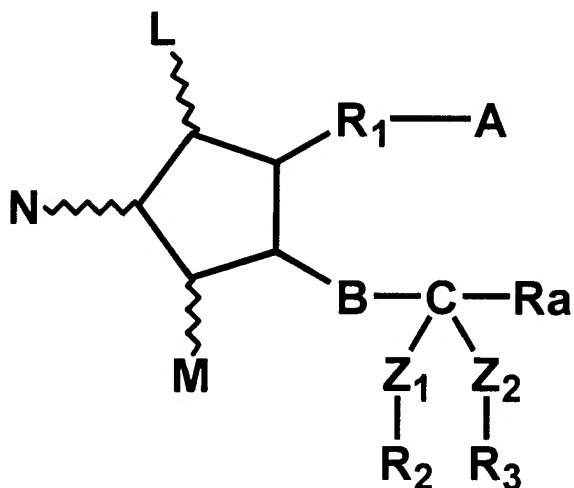
AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (withdrawn): A composition for promoting hair growth in a mammalian subject, comprising a prostaglandin compound having two hetero atoms at the 15 position as an active ingredient thereof.

2. (withdrawn): The composition as described in claim 1, wherein said prostaglandin compound is the compound as shown by the following formula (I):



wherein L, M and N are hydrogen, hydroxy, halogen, lower alkyl, hydroxy(lower)alkyl, lower alkanoyloxy or oxo, wherein at least one of L and M is a group other than hydrogen, and the five-membered ring may have at least one double bond;

A is -CH₃, or -CH₂OH, -COCH₂OH, -COOH or a functional derivative thereof;

B is -CH₂-CH₂-, -CH=CH- or -C≡C-;

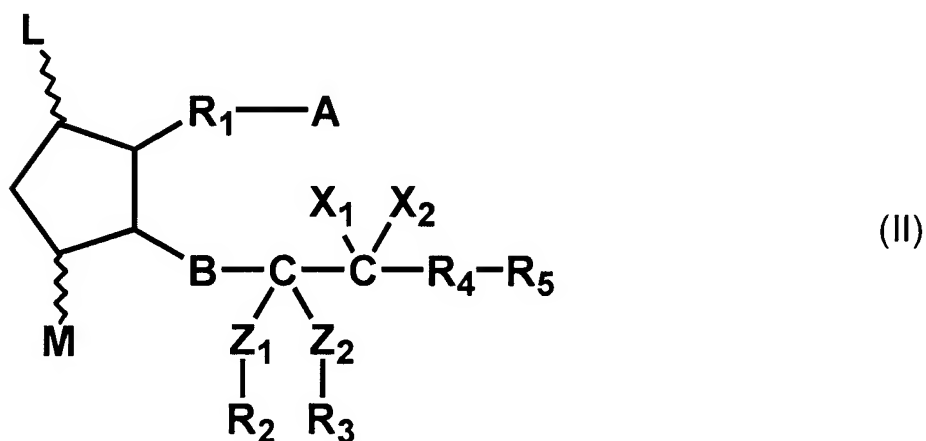
Z₁ and Z₂ are oxygen, nitrogen or sulfur;

R₂ and R₃ are optionally substituted lower alkyl, which is optionally linked together to form lower alkylene;

R₁ is a saturated or unsaturated bivalent lower or medium aliphatic hydrocarbon residue, which is unsubstituted or substituted with halogen, alkyl, hydroxy, oxo, aryl or heterocyclic group, and at least one of carbon atom in the aliphatic hydrocarbon is optionally substituted by oxygen, nitrogen or sulfur; and

R_a is a saturated or unsaturated lower or medium aliphatic hydrocarbon residue, which is unsubstituted or substituted with halogen, oxo, hydroxy, lower alkoxy, lower alkanoyloxy, cyclo(lower)alkyl, cyclo(lower)alkyloxy, aryl, aryloxy, heterocyclic group or heterocyclic-oxy group; lower alkoxy; lower alkanoyloxy; cyclo(lower)alkyl; cyclo(lower)alkyloxy; aryl; aryloxy; heterocyclic group; heterocyclic-oxy group.

3.(withdrawn): The composition as described in claim 2, wherein the prostaglandin compound is represented by the formula (II):



wherein L, M, A, B, Z₁, Z₂, R₁, R₂ and R₃ are the same as Claim 2,

X₁ and X₂ are hydrogen, lower alkyl, or halogen;

R₄ is a single bond or lower alkylene; and

R₅ is lower alkyl, lower alkoxy, lower alkanoyloxy, cyclo(lower)alkyl, cyclo(lower)alkyloxy, aryl, aryloxy, heterocyclic group or heterocyclic-oxy group.

4. (withdrawn): The composition as described in claim 1, wherein said prostaglandin compound is 13,14-dihydro-15,15-ethylenedioxy-20-ethyl-PGF_{2α} isopropyl ester.

5. (withdrawn): The composition as described in claim 1, wherein said prostaglandin compound is 13,14-dihydro-15,15-ethylenedioxy-17-phenyl-18,19,20-trinor-PGF_{2α} isopropyl ester.

6. (withdrawn): The composition as described in claim 1, wherein said prostaglandin compound is 13,14-dihydro-15,15-trimethylenedioxy-20-ethyl-PGF_{2α} isopropyl ester.

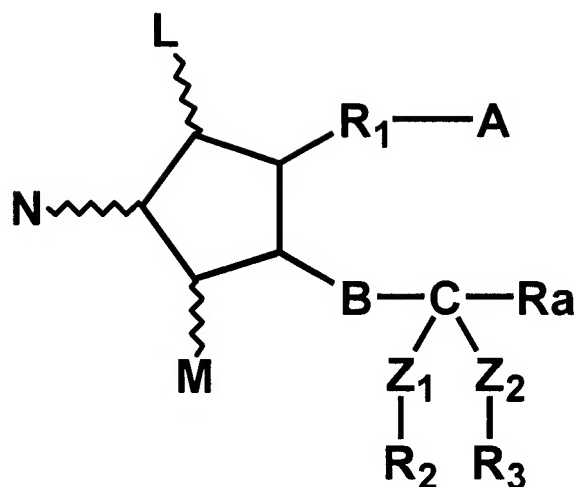
7. (withdrawn): The composition as described in claim 1, wherein said prostaglandin compound is 13,14-dihydro-15,15-dimethoxy-20-ethyl-PGF_{2α} isopropyl ester.

8. (withdrawn): The composition as described in claim 1, wherein said prostaglandin compound is 13,14-dihydro-15,15-ethylenedioxy-20-ethyl-PGF_{2α} ethyl ester.

9. (original): A method for promoting hair growth in a mammalian subject, comprising administering an effective amount of a prostaglandin compound having two hetero atoms at the 15 position to the subject in need thereof.

10. (withdrawn): Use of a prostaglandin compound having two hetero atoms at the 15 position for manufacturing a composition for promoting hair growth in a mammalian subject.

11. (withdrawn): A compound represented by the following formula (I):



wherein L, M and N are hydrogen, hydroxy, halogen, lower alkyl, hydroxy(lower)alkyl, lower alkanoyloxy or oxo, wherein at least one of L and M is a group other than hydrogen, and the five-membered ring may have at least one double bond;

A is -CH₃, or -CH₂OH, -COCH₂OH, -COOH or a functional derivative thereof;

B is -CH₂-CH₂-, -CH=CH- or -C≡C-;

Z₁ and Z₂ are oxygen, nitrogen or sulfur;

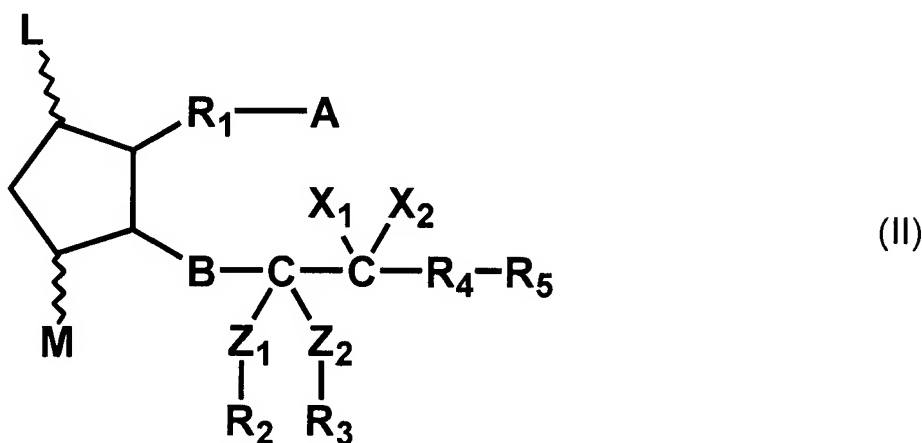
R₂ and R₃ are optionally substituted lower alkyl, which is optionally linked together to form over alkylene;

R₁ is a saturated or unsaturated bivalent lower or medium aliphatic hydrocarbon residue, which is unsubstituted or substituted with halogen, alkyl, hydroxy, oxo, aryl or heterocyclic group, and at least one of carbon atom in the aliphatic hydrocarbon is optionally substituted by oxygen, nitrogen or sulfur; and

Ra is a saturated or unsaturated lower or medium aliphatic hydrocarbon residue, which is unsubstituted or substituted with halogen, oxo, hydroxy, lower alkoxy, lower alkanoyloxy, cyclo(lower)alkyl, cyclo(lower)alkyloxy, aryl, aryloxy, heterocyclic group or hetrocyclic-oxy

group; lower alkoxy; lower alkanoyloxy; cyclo(lower)alkyl; cyclo(lower)alkyloxy; aryl; aryloxy; heterocyclic group; heterocyclic-oxy group.

12. (withdrawn): The compound as described in claim 11, wherein said compound is represented by the formula (II):



wherein L, M, A, B, Z₁, Z₂, R₁, R₂ and R₃ are the same as Claim 11;

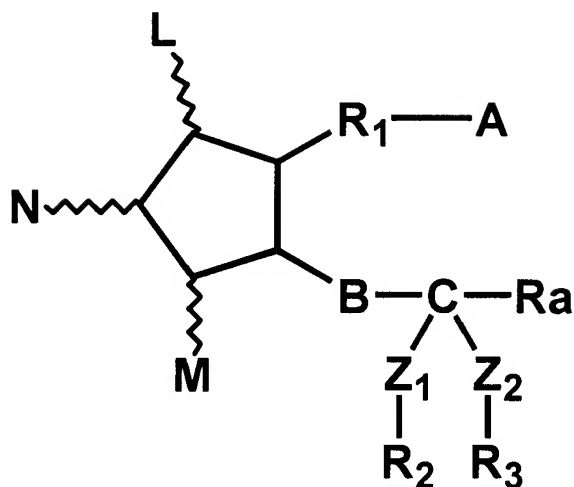
X₁ and X₂ are hydrogen, lower alkyl, or halogen;

R₄ is a single bond or lower alkylene; and

R₅ is lower alkyl, lower alkoxy, lower alkanoyloxy, cyclo(lower)alkyl, cyclo(lower)alkyloxy, aryl, aryloxy, heterocyclic group or heterocyclic-oxy group.

13. (withdrawn): The compound as described in claim 12, wherein R₂ and R₃ are linked together to form C3 alkylene.

14. (new): The composition as described in claim 9, wherein said prostaglandin compound is the compound as shown by the following formula (I):



wherein L, M and N are hydrogen, hydroxy, halogen, lower alkyl, hydroxy(lower)alkyl, lower alkanoyloxy or oxo, wherein at least one of L and M is a group other than hydrogen, and the five-membered ring may have at least one double bond;

A is -CH₃, or -CH₂OH, -COCH₂OH, -COOH or a functional derivative thereof;

B is -CH₂-CH₂-, -CH=CH- or -C≡C-;

Z₁ and Z₂ are oxygen, nitrogen or sulfur;

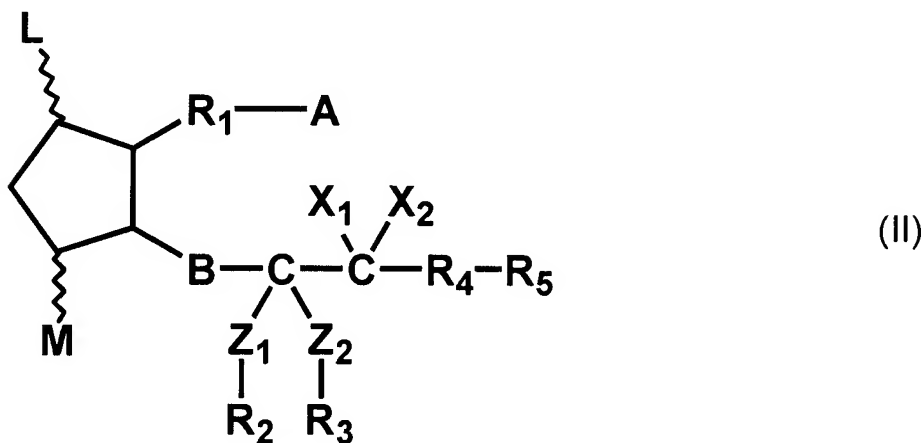
R₂ and R₃ are optionally substituted lower alkyl, which is optionally linked together to form lower alkylene;

R₁ is a saturated or unsaturated bivalent lower or medium aliphatic hydrocarbon residue, which is unsubstituted or substituted with halogen, alkyl, hydroxy, oxo, aryl or heterocyclic group, and at least one of carbon atom in the aliphatic hydrocarbon is optionally substituted by oxygen, nitrogen or sulfur; and

Ra is a saturated or unsaturated lower or medium aliphatic hydrocarbon residue, which is unsubstituted or substituted with halogen, oxo, hydroxy, lower alkoxy, lower alkanoyloxy, cyclo(lower)alkyl, cyclo(lower)alkyloxy, aryl, aryloxy, heterocyclic group or heterocyclic-oxy

group; lower alkoxy; lower alkanoyloxy; cyclo(lower)alkyl; cyclo(lower)alkyloxy; aryl; aryloxy; heterocyclic group; or heterocyclic-oxy group.

15.(new): The composition as described in claim 14, wherein the prostaglandin compound is represented by the formula (II):



wherein L, M, A, B, Z₁, Z₂, R₁, R₂ and R₃ are the same as in Claim 14,

X₁ and X₂ are hydrogen, lower alkyl, or halogen;

R₄ is a single bond or lower alkylene; and

R₅ is lower alkyl, lower alkoxy, lower alkanoyloxy, cyclo(lower)alkyl, cyclo(lower)alkyloxy, aryl, aryloxy, heterocyclic group or heterocyclic-oxy group.

16. (new): The composition as described in claim 9, wherein said prostaglandin compound is 13,14-dihydro-15,15-ethylenedioxy-20-ethyl-PGF_{2α} isopropyl ester.

17. (new): The composition as described in claim 9, wherein said prostaglandin compound is 13,14-dihydro-15,15-ethylenedioxy-17-phenyl-18,19,20-trinor-PGF_{2α} isopropyl ester.

18. (new): The composition as described in claim 9, wherein said prostaglandin compound is 13,14-dihydro-15,15-trimethylenedioxy-20-ethyl-PGF_{2α} isopropyl ester.

19. (new): The composition as described in claim 9, wherein said prostaglandin compound is 13,14-dihydro-15,15-dimethoxy-20-ethyl-PGF_{2α} isopropyl ester.

20. (new): The composition as described in claim 9, wherein said prostaglandin compound is 13,14-dihydro-15,15-ethylenedioxy-20-ethyl-PGF_{2α} ethyl ester.